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THE INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR SEPTEMBER, 1924

White grubs have been reported as being more seriously prevalent than usual in the Ohio River Valley, southern Michigan, and parts of Nebraska and Kansas.

The Hessian fly promises to be seriously abundant in Ohio, where present indications are that the brood will be late in emerging. Rather heavy infestation is also reported from Illinois, Nebraska, and Kansas.

The European corn borer is reported as spreading southward much more rapidly than last year in Ohio, and the intensity of infestation has also materially increased.

Cool, rainy weather in Kansas and Illinois is believed to be very adversely affecting the chinch bug and no serious damage during 1925 is anticipated in these States.

The western corn rootworm is reported as moderately abundant in Michigan and Iowa and seriously abundant in parts of Nebraska.

The red spider problem has reached such serious magnitude in California as to be the occasion of a large conference of agricultural advisers, growers, and others, directly and indirectly associated with the fruit industry of that State, to devise methods for control.

The Mexican bean beetle is now reported in the northeasternmost corner of the State of Ohio, thence westward along the lake shore to Lorain County, thence southwestward through Hancock County and Shelby County to Butler County in the southwestern corner of the State. The infestation in West Virginia is now known to extend as far east as Harrison, Gilmer, Kanawha, Fayette and Monroe Counties, and in North Carolina eastward to Wilkes and Iredell Counties and has extended northward in Pennsylvania to Beaver County. In Wyoming the pest is extending northward in Platte County.

The pea aphid, on the whole, was not seriously abundant in Wisconsin this year, though a slight amount of damage early in August was reported from the dried-pea section in Door County.

The cotton boll weevil on the whole has not been a serious factor this year except in a few restricted regions. About the middle of the month, however, many bolls were found infested in parts of North Carolina and South Carolina which had previously been considered safe, in many cases the damage being on well-developed bolls. Similar injury to well-grown bolls was reported from Georgia. Considerable cotton in the Greenville district of Mississippi, the growth of which was retarded by dry weather, is now threatened by a late attack of the weevil.

The cotton leafworm is now reported as generally prevalent throughout the cotton belt. A slight amount of control work is being attempted in a few of the States but generally it is believed that the cotton is so far advanced that the leafworm can do but little damage.

A very heavy emergence of the cicada Tibicen resonans Walker is reported from the Tampa region of Florida, the outbreak being in intensity very similar to an emergence of the periodical cicada.

The bagworm is abundant and destructive over the greater part of Ohio, southern Indiana, and parts of Kentucky, Oklahoma, Kansas, and Mississippi.

Practically all the locust trees in southern Ohio are browned by the locust hispa.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR SEPTEMBER, 1924

The eye-spotted bud-moth, Spilonota ocellana D. & S., occurred in outbreak form in Kings County, Nova Scotia, and was abundant and destructive in unsprayed orchards in southwestern Ontario.

The lesser apple worm, Laspeyresia prunivora Walsh, proved very injurious in the Okanagan Valley, British Columbia, this season.

Leafhoppers, principally the six-spotted species, Cicadula sexnotata Fallen, have caused very severe injury to oats and barley over considerable areas in north-central Saskatchewan.

The rosy aphid, Anuraphis roseus Baker, has been unusually abundant and destructive in the Annapolis Valley, Nova Scotia.

The grape-berry moth, Polychrosis viteana Clemens, has come into prominence as a grape pest in the Niagara district of Ontario.

The currant fruit-fly, Epochra canadensis Loew, is so injurious in southern interior British Columbia as to make it impossible to grow currants and gooseberries commercially.

The peach worm, Anarsia lineatella Zeller, is abundant in the lower Okanagan Valley, B. C., causing considerable loss to peaches and prunes.

The wheat-stem sawfly, Cephus cinctus Norton, is not as plentiful in Manitoba this season as it has been during the last few years.

The infestation by the cabbage aphid, Brevicoryne (Aphis) brassicae L., in the Okanagan Valley, B. C., has been general, causing considerable loss.

The onion maggot, Hylemyia antiqua Meigen, has been unusually plentiful in the Okanagan Valley, B. C., this season, and the onion thrips, Thrips tabaci Lind., caused considerable loss.

The larch sawfly, Lygaeonematus erichsoni Hartig, is more or less generally infesting the forests over the whole southeastern corner of Nova Scotia, and it is reported on the increase in Manitoba.

A rather serious infestation of the gipsy moth, Porthetria dispar L., was discovered on the Belle Valley road, some 3 or 4 miles southwest of Lacolle Village, in St. John's county, Quebec, on September 3. This outbreak, which covers an area of at least 600 square yards, is principally confined to apple and shade trees. In addition twelve infertile eggs, the remnants of an egg-mass, were found near the village of Beebe, in Stanstead county, Québec, on July 29. This latter infestation constitutes the first record of the gipsy moth in Canada.

The European corn borer, Pyrausta nubilalis Hbn., has increased in intensity throughout its entire range (Ontario) to a most alarming degree. This increase is most striking in the western and lake-shore counties of Elgin, Kent, and Essex. In the lake-shore townships of Essex and Kent the average field infestation over a distance of 30 miles has increased from less than 1 per cent to 95 per cent. Elsewhere the increase has not been as marked. The northern, central, and eastern counties, though more severely infested than in 1923, have not attained a tenth of the increase found in the western lake-shore area.

GENERAL ENTOMOLOGY

DRAGONFLIES (Odonata)

Mississippi

K. L. Cockerham (August 25): During the last few days there has occurred the largest flight of dragonflies in this section (Biloxi) which I have ever witnessed anywhere. All along the beach front literally hundreds of specimens would be in the air, heading and hanging into the face of the breeze. On one late afternoon I noticed a great many resting on the telephone and light wires around a residence; as many as one per foot would be about the average around this place where there was perhaps two hundred feet of this wiring. This unusual flight was during the most unusual period of heat experienced in this section in many years.

CEREAL AND FORAGE - CROP INSECTS

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

Indiana

J. J. Davis (September 22): Grasshoppers have increased noticeably this season. Reports of injury to field crops in the southwestern part of the State. Most inquiries have come from residents of cities in central and northern Indiana who report considerable damage to shrubbery and most all flower and vegetable garden crops.

Nebraska

M. H. Swenk (September 3): Grasshoppers (Melanoplus spp.) appeared in destructive abundance in Cheyenne and Kimball Counties during the month of August. The Cheyenne County agent reports that poisoning methods were successfully used against them. Complaints were also received of injury to alfalfa in Franklin County, but on the whole the summer of 1924 was unusually free from grasshopper troubles in this State.

Kansas

J. W. McColloch (September 20): The lesser migratory grasshopper (Melanoplus atlantis) continues to cause serious damage to alfalfa throughout the State. During the last month its injury has been particularly noticed on fall-sown alfalfa.

CUTWORMS (Noctuidae)

Illinois

W. P. Flint (September): Adult armyworms and cutworms have been less abundant in eastern Illinois during August and early September than at any time during the last four years, judging by the number taken in moth traps which have been run during the summer months for that length of time.

WHITE GRUBS (Phyllophaga spp.)

Ohio

E. W. Mendenhall (September 11): Complaints have come from all over the State in regard to the damage done by the common white grubs or grubworms, which have done a great deal of damage to the different crops this year.

Indiana

J. J. Davis (September 22): There have been reports of injury in isolated localities throughout the State. Strawberries, corn, and grasses are the principal crops attacked.

Michigan

Eugenia McDaniel (August 25): The June bug is causing an immense amount of damage to the truck gardens in and about Holland. This area is mostly muck soil and given over to truck farming.

Nebraska

M. H. Swenk (September 3): White grubs continued to be the subject of complaints of injury to bluegrass lawns, strawberry patches, and flower gardens during the first two weeks of August. In addition to the counties mentioned in my last report, reports of serious injury were received during August from Boone, Merrick, Fillmore, Buffalo, and Nuckolls Counties.

Kansas

J. W. McColloch (September 20): White grub injury to bluegrass lawns has been reported from Mankato, Hutchinson, and Manhattan.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Ohio

H. A. Gossard (September 20): The Hessian fly is quite threatening in several counties of the State and our emergence records up to the present writing indicate that we will probably have a late emergence. Fall conditions are very favorable for a great increase of infestation in next year's crop.

Illinois W. P. Flint (September): Emergence of the fall brood of the Hessian fly occurred at about the usual date. In northern Illinois 60 to 75 per cent of the fly had emerged by September 12. In central Illinois emergence began about September 8-9. Eggs were present in small numbers by the 10th and in moderate numbers on the 17th. As stated in the last report, enough fly is present in all sections of the State to cause moderate to heavy infestation to volunteer and early-sown wheat.

Nebraska M. H. Swenk (September 8): Two Hessian fly observation stations have been located in this State, one in Saunders County and the other in Gage County. The main emergence began at both stations September 3. The counts at the two stations for the period August 31 to September 25, are as follows:

| Station No. 1 (Wahoo) | | | | Station No. 2 (Beatrice) | | | |
|--|------|---------------------------------------|------|--|------|--------------------------------------|-----|
| Percent emerged puparia : on 100 stubble plants | | No. of eggs on : 100 wheat plants: | | Percent emerged puparia : on 100 stubble plants | | No. of eggs on : 100 wheat plants | |
| Aug. 31 | 0 | : | 0 | Aug. 31 | 0 | : | 0 |
| Sept. 1 | rain | : | 0 | Sept. 1 | 0 | : | 0 |
| 2 | 6.4 | : | 0 | 2 | 0 | : | 0 |
| 3 | 17.3 | : | 0 | 3 | 2.9 | : | 00 |
| 4 | 17.4 | : | 0 | 4 | 3.1 | : | 0 |
| 5 | 26.2 | : | 0 | 5 | 5.3 | : | 0 |
| 6 | 26.3 | : | 0 | 6 | 4.7 | : | 0 |
| 7 | 29.4 | : | 23 | 7 | 8.7 | : | 0 |
| 8 | 36.6 | : | 46 | 8 | 8.8 | : | 0 |
| 9 | 42.3 | : | 18 | 9 | 11.4 | : | 0 |
| 10 | 46.9 | : | 17 | 10 | 15.2 | : | 0 |
| 11 | 49.7 | : | rain | 11 | 16.2 | : | 0 |
| 12 | 52.7 | : | 0 | 12 | 17.1 | : | 0 |
| 13 | 51.1 | : | 20 | 13 | 20.6 | : | 0 |
| 14 | 57.6 | : | 3 | 14 | 24.6 | : | 0 |
| 15 | 58.1 | : | 285 | 15 | 25.6 | : | 0 |
| 16 | 52.6 | : | 80 | 16 | 27.9 | : | 0 |
| 17 | 59.1 | : | 44 | 17 | 26.3 | : | 0 |
| 18 | 71.8 | : | 721 | 18 | 29.0 | : | 0 |
| 19 | 72.7 | : | 485 | 19 | 33.3 | : | 0 |
| 20 | 72.4 | : | 808 | 20 | 21.4 | : | 0 |
| 21 | 75.4 | : | 622 | 21 | 30.5 | : | 0 |
| 22 | 78.5 | : | 936 | 22 | 34.7 | : | 100 |
| 23 | 81.6 | : | 839 | 23 | 25.0 | : | 20 |
| 24 | 85.7 | : | 210 | 24 | 35.8 | : | 20 |
| 25 | 88.1 | : | 736 | 25 | 38.7 | : | 10 |

Iowa M. H. Swenk (September 12): Indications now are that the fly-free date (or date of safe sowing) will come later this year than it did last year. The percentage emergence at the three field stations was reported as follows:

| Harrison County | | Henry County | | Mills County | |
|-----------------|------|--------------|------|--------------|------|
| Sept. 9 | - 21 | Sept. 7 | - 35 | Sept. 8 | - 20 |
| 12 | - 26 | 11 | - 45 | 10 | - 22 |
| 17 | - 36 | 13 | - 55 | 16 | - 30 |
| 24 | - 50 | 24 | - 65 | 24 | - 42 |

Kansas J.W. McCulloch (September 20): Conditions have been very favorable for the Hessian fly. Plenty of rain in many sections of the State brought up a good stand of volunteer wheat. Fly emergence which started July 26 has continued and much of the volunteer grain is infested. "Flaxseeds" can now be found and emergence from this volunteer wheat can be expected in the near future.

GREAT-ER WHEAT-STEM MAGGOT (Meromyza americana Fitch)

Kansas J. W. McCulloch (September 20): Volunteer wheat sent in from Ellsworth was heavily infested with the maggots of this species.

GREAT-PLAINS FALSE WIREWORM (Eleodes opaca Say)

Kansas J. W. McCulloch (September 20): Two reports of injury have been received from the southwestern part of the State. A farmer at Plains has lost 300 acres of wheat seeded this fall. At Satanta, Haskell County, two fields show serious damage. There has been little rain in the southwestern part of the State this fall.

CORN

EUROPEAN CORN BORER (Pyrausta nubilalis Huebn.)

Ohio H. A. Gossard (September 20): The European corn borer is spreading southward much more rapidly than in former years and intensity of infestation has increased greatly during the last year. Commercial damage in the infested districts is still less than 1 per cent, if we do not take into account the increased expense for harvesting and the embarrassments of the quarantine, but it is quite evident that the commercial damage will be very much greater in a year or two more.

CHINCH BUG (Blissus leucopterus Say)

Illinois W. P. Flint (September): Continued rains during late August and September have made conditions very unfavorable for second-brood bugs, and have so reduced their numbers that there will be no danger of severe damage in any section of the State during 1925.

Kansas J. W. McCulloch (September 20): Chinch bugs are still abundant in the corn and sorghum fields but are not causing serious damage. Cool, rainy weather throughout much of the State has been favorable to crops and has had a tendency to reduce the chinch bug infestation.

CORN EARWORM (Heliothis obsoleta Fab.)

Illinois W. P. Flint (September): According to J. H. Bigger, the corn earworm is not as abundant as usual in Illinois this season. Counts made in western Illinois during the last week show only about 7 to per cent infestation.

- Utah Geo. F. Knowlton (September 5): The corn earworm is not doing quite as much damage as last year or the year before.
- Oregon L. P. Rockwood (September 3): Damage to sweet corn is much more common than usual, especially as compared with last year when damage was unusual. Spring and summer have been unusually dry.

LESSER CORN STALK-BORER (Elasmopalpus lignosellus Zell.)

- Mississippi R. W. Harned (September 18): There has been a rather serious outbreak of the lesser corn stalk-borer, Elasmopalpus lignosellus. Apparently this insect is present in all parts of the State. We have received specimens from several dozen places, indicating that the insects are distributed in injurious numbers quite generally throughout the State. They have been reported as injuring especially soybeans, cowpeas, sorghum, corn, and sugar cane. In some gardens a large proportion of the plants were destroyed by these insects. One correspondent at Booneville who sent in specimens from his garden wrote that at least 90 per cent of the peas were infested, and 25 per cent of the beans. The outbreak of this insect this summer is rather interesting as we did not have a single report of injury by this species during 1922 or 1923. Three years ago, that is, during the summer of 1921, this insect occurred in injurious numbers at many places throughout the State. We do not have any record of the appearance of this insect during 1919 or 1920.

STALK-BORER (Papaipema nitela Guen.)

- Ohio H. A. Gossard (September 20): The common stalk-borer has been received from many localities and was possibly somewhat worse than in ordinary seasons, but the large number of specimens sent in may have been due to the alertness of our people in looking for the European corn borer.
- Nebraska M. H. Swenk (September 3): A few reports of injury by the stalk-borer to corn were received during the first week in August.

ARMYWORM (Cirphis unipunctata Haw.)

- Georgia V. C. Durham (September 17): Reported from Marietta on this date damaging late corn.

WESTERN CORN ROOTWORM (Diabrotica longicornis Say)

- Michigan R. H. Pettit (September 9): Destruction of a field of corn by this insect near Dundee. It seems that the owner of this field had used corn three years in succession in order to try to kill out quack grass with the result stated. Ordinarily we have very little trouble with this insect, owing, I suppose, to the regular system of rotation which is maintained as general practice in our State.

Iowa C. N. Ainslie (September 15): The adults of this beetle are found in numbers. Possibly the late maturing of the corn, affording an extraordinary amount of late green silk, has been one factor in the abundance. They are feeding on helianthus and other flowers, also on alfalfa, and are in evidence everywhere. For a number of years the damage to corn has been negligible, very few fields of leaning or prostrate corn being observed.

Nebraska M. H. Swenk (September 3): Cases of serious damage in large corn-fields by the western corn rootworm were reported from Cuming and Douglas Counties during August.

Connecticut W. E. Britton (September 15): Apparently not heretofore recorded from Connecticut; attacking flowers of aster and calendula at Granby.

SOUTHERN CORN ROOTWORM (Diabrotica duodecimpunctata Fab.)

Nebraska M. H. Swenk (September 3): A Platte County field that had been in oats and sweet clover last year, and was planted to corn May 18-20 last, was heavily damaged during late July and early August by the southern corn rootworm, a pest that is not frequently seriously injurious in this State.

ALFALFA

LEAFHOPPERS (Jassidae)

Utah Geo. F. Knowlton (September 5): Leafhoppers of many species are numerous on alfalfa this year. Three species of leafhoppers are very numerous on alfalfa, apple, and peach in Boxelder and Cache Counties. Often 20 or more can be swept into a net at a single stroke.

GARDEN WEBWORM (Loxostege similalis Guen.)

Illinois W. P. Flint (September): The garden webworm has appeared in abundance in some August fields of alfalfa in east-central Illinois. It has been necessary to spray or dust some of these fields in order to prevent complete destruction by this webworm.

PEA APHID (Illinoia pisi Kalt.)

Utah Geo. F. Knowlton (September 5): Numerous on alfalfa now, doing some damage.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Mississippi M. M. High (September 25): This insect was very abundant late in July and early in August on a number of crops including collards, corn, grasses, etc.

CLOVER

CLOVER-LEAF WEEVIL (Hypera punctata Fab.)

Utah

Geo. F. Knowlton (September 5): The clover-leaf weevil is present in the State but doing little damage this year.

CLOVER-SEED MIDGE (Dasyneura leguminicola Lint.)

Nebraska

M. H. Swenk (September 3): A large red-clover field in Polk County was found to be heavily attacked by the clover-seed midge so that the seed crop was spoiled, while a near-by field that had been cut 10 days earlier was not seriously injured.

SOYBEANS

SOUTHERN CORN ROOTWORM (Diabrotica duodecimpunctata Fab.)

Illinois

J. H. Bigger (August 23): Feeding on blossoms in such numbers as doubtless to be a factor in reducing yield of beans this season in Morgan County.

GRASS

COTTONY GRASS SCALE (Eriopeltis festucae Fonsc.)

Illinois

W. P. Flint (September 20): During August several reports have come in, accompanied by specimens, of scale working on redtop in southeastern Illinois. This scale was identified by Dr. T. H. Frison as Eriopeltis festucae. To date, no serious amount of damage has been reported, although a noticeable amount of grass has been killed in some fields.

A CATERPILLAR (Mocis repanda Fab.)

Haiti

Geo. N. Wolcott (September 3): Dr. A. E. Vinson, Chemist of the Service Technique, recently returned from a trip to Gonave Island and brought back with him specimens of caterpillars which he found abundant in various places in guinea grass. They proved to be Mocis repanda Fab. of which there was a serious outbreak last winter at many points in Porto Rico.

FRUIT INSECTS

GENERAL

RED SPIDERS (Tetranychus spp.)

California Weekly News Letter, State of California, Vol. 6, No. 19 (September 20): A conference on red spider control was held under the auspices of the California State Department of Agriculture during the past month. Approximately two hundred persons attended the conference.

APPLE

RED-HUMPED CATERPILLAR (Schizura concinna S. & A.)

Pennsylvania S. W. Frost (September): This late-feeding caterpillar, along with others, has been found numerous in some orchards.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Massachusetts A. I. Bourne (September 26): The last brood of this insect was of very little importance. The spread throughout the southeastern section of the State has been more extensive than elsewhere, some orchards showing considerable injury.

APPLE LEAF-MINER (Tischeria malifoliella Clemens)

Ohio E. W. Mendenhall (August 29): Apple stock in the nurseries in southwestern Ohio is badly infested with the apple leaf-miner.

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts A. I. Bourne (September 26): Considerable side-worm injury in Worcester and Middlesex Counties. Indications are that injury is due to late hatching first-brood caterpillars.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Pennsylvania S. W. Frost (September): This species appears even in orchards receiving four to five sprays.

GREEN APPLE APHID (Aphis pomi DeG.)

Utah Geo. F. Knowlton (September 5): Green apple aphids are still numerous in apple orchards in Boxelder, Davis, and Cache Counties, but not damaging enough to spray.

APPLE LEAFHOPPER (Empoasca mali LeB.)

Pennsylvania S. W. Frost (September): This leafhopper has been noticeably abundant during the last two months.

ROSE LEAFHOPPER (Empoae rosae L.)

Pennsylvania S. W. Frost (September): Not as abundant in Adams County as last year, although certain orchards, especially the younger orchards, show considerable stippling on the leaves. Considerable spotting of the fruit by exudations has been noted but otherwise no serious injury.

APPLE-SEED CHALCID (Syntomaspis druparum Boh.)

Pennsylvania S. W. Frost (September): The apple-seed chalcid has been abundant for several years in Adams County, especially on certain varieties, as Grimes Golden. The injury is often confused with red-bug injury which it resembles superficially.

A FLOWER-BEETLE (Euphoria sepulchralis Fab.)

Kansas J. W. McCulloch (September 22): Adults of this species are causing some damage to fruit in this vicinity. A hailstorm a week ago bruised quite a bit of fruit and rendered it attractive to these beetles.

EUROPEAN RED SPIDER (Paratetranychus pilosus C. & F.)

Massachusetts A. I. Bourne (September 26): Practically no bronzing of foliage has resulted from the attack of this species this year.

Pennsylvania S. W. Frost (September): Not as abundant as last year. An occasional orchard in Adams County shows an abundance of the mite but nowhere has serious injury been noted on the foliage.

PEAR

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Pennsylvania S. W. Frost (September): Quince and pears in home gardens and orchards suffer serious infestation by the plum curculio.

PEACH

ORIENTAL PEACH MOTH (Laspeyresia molesta Busck.)

Connecticut Philip Garman (September 25): Causing considerable loss in some peach orchards in New Haven and Fairfield Counties. Abundance as compared with an average year seems to be more abundant.

PEACH-TWIG MOTH (Anarsia lineatella Zell.)

Utah Geo. F. Knowlton (September 5): Peach-twigs borers have done considerable damage in orchards not sprayed for their control. Arsenical sprays used at the right times have been effective in lowering the damage to twigs and fruit.

REARHORSE (Stenomantis carolina Johan.)

Georgia Oliver I. Snapp (September 15): The praying mantis is apparently unusually abundant in Georgia peach orchards this year at Fort Valley.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia Oliver I. Snapp (September 15): The general San Jose scale infestation in the Georgia peach belt is lighter this season of year than usual. Unusually low temperatures last winter and careful spraying are probably the factors responsible for the reduction in the infestation. Judging from present indications a large quantity of both the heated and cold-pumped lubricating-oil emulsions will be used for scale control in Georgia this year.

WEST INDIAN PEACH SCALE (Aulacaspis pentagona Targ.)

Connecticut M. P. Zappe (September 10): This insect seems to be much more abundant this year than for several years past at Stamford; attacking catalpa, plum, apple, and cherry.

PEACH-TREE BORER (Aegeria exitiosa Say)

Georgia Oliver I. Snapp (September 15): Adults are now emerging in numbers. A majority of the growers will again use paradichlorobenzene this year. 500,000 pounds were used in the peach belt last year.

Utah Geo. F. Knowlton (September 5): Peach-tree borers are doing less damage than last year. Where treated with paradichlorobenzene, good controls resulted last fall. There has been less gum around the trees than for years.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Utah Geo. F. Knowlton (September 5): Shot-hole borers are apparent in most old or neglected peach and cherry orchards in northern Utah.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts A. I. Bourne (September 26): Experimental plantings show that one or two applications of spray subsequent to calyx spray was effective in controlling this pest.

Georgia Oliver I. Snapp (September 15): Second-generation adults have been emerging from the soil in limited numbers during the last two weeks. Jarring records show that the peak of appearance of second generation adults in the orchards was reached September 4.

CHERRY

CHERRY APHID (Myzus cerasi Fab.)

Utah Geo. F. Knowlton (September 5): The black cherry aphid has been present doing some damage in every cherry orchard examined, but seldom doing excessive damage.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Mississippi M. M. High (September): The grape leafhopper has been numerous on grapes about Gulfport.

PECAN AND WALNUT

FALL WEBWORM (Hyphantria cunea Drury)

Georgia Oliver I. Snapp (September 15): This insect is not as abundant as usual in this part of the State (Fort Valley).

PECAN NUT CASE-BEARER (Acrobasis hebescella Hulst)

Mississippi M. M. High (September): The pecan leaf case-bearer along with A. hebescella is plentiful in some orchards along the coast.

PECAN LEAF CASE-BEARER (Acrobasis nebulella Riley)

Mississippi M. M. High (September): The pecan-leaf case-bearer is plentiful in some orchards along the coast.

California Clifford T. Dodds (August 29): Introduced from Monticello, Fla., during the winter of 1923 on pecan trees. Reported in the Journal of Economic Entomology, Vol. XVII, No. 4, page 504, 1924.

EUROPEAN WALNUT APHID (Chromaphis juglandicola Kalt.)

Oregon Sadie E. Keen (September 5): Apparently the early shedding of leaves at Forest Grove is due to attack of these aphids which are present in great numbers and in all stages.

CITROUS AND SUBTROPICAL FRUITS

COMMON MEALYBUG (Pseudococcus citri Risso)

Louisiana H. K. Plank and assistants (September 18): Very abundant at New Orleans on doorway fig trees within the city limits, causing much discoloration of fruit due to sooty mold. Moderately to severely infested trees are almost completely defoliated and sending out a new set of leaves.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Louisiana H. K. Plank (September 20): Very abundant at Waldheim on September 4, on some old satsuma orange trees near^a house which were killed back but little by the freeze of last January, when the temperature went to about 18°F., sufficient to cause many of the leaves to fall and no fruit to develop.

ORANGE SCALE (Chrysomphalus aurantii Mask.)

Texas H. K. Plank (August 18): Found abundant in groves at Harlingen not well sprayed. Generally distributed here and about Mission, and San Benito. Attacking Citrus grandis.

FLORIDA RED SCALE (Chrysomphalus aconidum L.)

Texas H. K. Plank (August 18): Very abundant and generally distributed at Harlingen and in the citrus groves to the west. Has been infesting the upper surface of banana leaves growing near infested trees, also attacking Citrus grandis, C. sinensis, and Musa sapientum.

SOFT BROWN SCALE (Coccus hesperidum L.)

Louisiana H. K. Plank and assistants (August 30): On some trees at Willswood that have been unsprayed since last year, this scale has increased to a very marked extent and is attended by large numbers of Argentine ants, but is not now very abundant. The freeze last January, when the temperature went to about 16°F., is very largely responsible for the great decrease since last year.

PURPLE SCALE (Lepidosaphes beckii Newm.)

Louisiana H. K. Plank and assistants (August 30): On some trees at Willswood that have been unsprayed since July of this year, this scale has increased very markedly, but still is comparatively scarce. The freeze last January, when the temperature went to about 16°F., is very largely responsible for the great decrease from last year.

T R U C K - C R O P I N S E C T S

GENERAL FEEDERS

PAINTED LADY BUTTERFLY (Vanessa cardui L.)

Ohio H. A. Gossard (September 20): During June and July the thistle butterfly nearly cleaned up the Canada thistle in several Ohio counties, this development paralleling the conditions in States to the westward, as reported in the last two numbers of the Insect Pest Survey Bulletin.

SOUTHERN GREEN PLANT-BUG (Nezara viridula L.)

Florida F. S. Chamberlin (August 29): The southern green stink-bug is much less numerous than is usually the case at this season of the year. The numbers of this pest were greatly reduced by the unusually low temperatures last winter and apparently have not yet been brought up to normal.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Virginia

Herbert Spencer (September 25): We have had considerable trouble in the trucking sections of Virginia during the weeks of September 8 and 15 with fall armyworms, but to date the amount of damage is noticeably less than in the similar outbreak last year. Corn has been ragged on a few farms, kale has grown too large to be seriously damaged, but spinach, which is just coming through the ground, is showing considerable injury. Bran bait is being used extensively, and with success except on the spinach. With this crop heavy dusting with arsenicals is giving better results.

CUTWORMS (Noctuidae)

Virginia

Herbert Spencer (September 9): I wish to report at this time an outbreak of cutworms on kale, lettuce, and parsley. The stand in certain areas has been injured to such an extent that replanting will be necessary.

BLISTER-BEETLES (Meloidae)

Nebraska

M. H. Swenk (September 3): Blister-beetles were the subject of several cases of complaint. The gray blister-beetle, Epicauta cinerea Forst., was reported injuring potatoes, tomatoes, beans, cucumbers, and other garden plants in Sherman and Furnas Counties; that species and E. lemniscata Fab. were reported as together injurious in Hitchcock County; and in Sioux County a case was reported where the blister-beetle Lytta aeneipennis completely stripped the lilac bushes and injured the leaves of the ash trees.

Utah

Geo. F. Knowlton (September 5): Blister-beetles are again numerous in a few fields west of Smithfield and in Farmington.

RED SPIDERS (Tetranychus spp.)

Indiana

J. J. Davis (September 22): Red spiders are very abundant throughout the State on flower and vegetable garden plants, as well as on trees and shrubbery, especially conifers.

Mississippi

M. M. High (August 25): A red spider, Tetranychus sp., has appeared unusually abundant on beans, eggplant, strawberry, pepper, melon, and roses in southern Mississippi during the last several weeks.

Utah

Geo. F. Knowlton (September 5): Red spiders are damaging many crops throughout the State this year. Very heavy damage has been done to some raspberry patches and flower beds in Cache, Boxelder, and Davis Counties the last month.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Canc)

California Roy E. Campbell (September): Less than one-half acre of bell peppers are being grown in the locality where they were so badly damaged by the pepper weevil last year. Many pods had set and some were mature, but practically all were infested, some with several insects. Larvae, pupae, and newly emerged adults were taken, indicating that one generation had been completed. Adults were captured easily by shaking the plants over a net.

POTATO AND TOMATO

POTATO APHID (Macrosiphum solanifolii Ashm.)

Utah Geo. F. Knowlton (September 5): The potato aphid is doing little damage to potatoes this year.

POTATO LEAFHOPPER (Amrocasca mali LeB.)

Utah Geo. F. Knowlton (September 5): The potato leafhopper is not doing much damage to potatoes this year, but is present in small numbers in most fields.

TOMATOWORM (Protoparce sexta Johan.)

Utah Geo. F. Knowlton (September 5): Tomatoworms are doing considerable damage in some patches, but usually not present in great numbers. Some were taken on apple trees in Cornish.

CABBAGE

CABBAGE APHID (Brevicoryne brassicae L.)

Connecticut A. E. Wilkinson (September 25): Recent rains have materially lessened the number of this insect in this State; attacking cabbage, cauliflower, and brussels sprouts.

Utah Geo. F. Knowlton (September 5): Cabbage aphids have been very numerous this summer and frequent dusting or spraying has been necessary in Cache County.

IMPORTED CABBAGE WEBWORM (Hellula undalis Fab.)

Mississippi M. M. High (August 25): The imported cabbage webworm has done injury to late cabbage and turnip, although not as severe as during some former years.

CABBAGE LOOPER (Autographa brassicae Riley)

Mississippi M. M. High (August 25): Autographa brassicae has done considerable injury to turnips, cabbage, and collards on the Mississippi coast the past few weeks.

CABBAGEWORM (Pontia rapae L.)

Connecticut A. E. Wilkinson (September 25): This insect is more abundant than usual in this State; attacking cabbage and cauliflower.

STRAWBERRY

STRAWBERRY LEAF-ROLLER (Ancylis comptana Froehl.)

Utah Geo. F. Knowlton (September 5): The strawberry leaf-roller is widely distributed throughout the strawberry raising sections of the State, and has done considerable damage in Boxelder and Davis Counties this year.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Pennsylvania Neale F. Howard (September 2): The Mexican bean beetle was reported from Washington and Green Counties during the latter half of August.

West Virginia W. E. Runsey (September 3): Reported from Logan County as being destructive.

Neale F. Howard (September 2): Reported from Kanawha, Roane, Harrison, Calhoun, Gilmer, Doddridge, Wetzel, Marshall, and Tyler Counties during the latter half of August.

North Carolina Neale F. Howard (September 2): Reported from Wilkes, Caldwell, Alexander, and Iredell Counties on August 27.

Ohio D. M. DeLong (September): During the last week I have been scouting in northern Ohio and have found the beetle extending from Wheeling, along the Ohio River, to East Liverpool, then along the eastern border of Ohio to Geneva, in Ashtabula County, and along the lake westward through Lake County, around Cleveland, in Cuyahoga County, and in the eastern part of Lorain County. I have not been able to locate it west of this point although a detailed search was made. Furthermore, second-generation larvae were found along the lake and a slight amount of damage.

H. A. Gossard (September 20): The Mexican bean beetle is also now found in nearly all parts of the State, according to the reports of Mr. DeLong, of the Ohio State University, and Mr. Miller, of the Experiment Station located at Chillicothe.

Neale F. Howard (September 2): Reported from Delaware, Marion, Hardin, Shelby, Crawford, and Morrow Counties during the latter part of August.

Wyoming

C. L. Corkins (August 25): The writer found this insect at Wheatland, Flatte County, early in August, 1923, though the county agent stated that he had seen it the previous year. So far it has attacked only garden beans, but has done severe damage to these. This year the insect has spread from Wheatland northward to the territory immediately southwest of Dwyer.

BEAN APHID (Aphis rumicis Linn.)

Utah

Geo. F. Knowlton (September 5): The bean aphid is numerous on many plants here, being especially numerous on truck crops and burdock the last two summers.

LIMA BEAN VINE-BORER (Monoptilota pergratialis Hulst)

Mississippi

R. W. Harned (September 18): The lima bean vine-borer has been received from two properties in Marshall County.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Wisconsin

J. E. Dudley, jr.: During the first week in July infestation of the pea aphid in eastern and southern Wisconsin assumed such proportions that a large per cent of the crop was threatened; and growers and canners became much alarmed.

It was found in the Columbus region that the continued heavy rains brought about such a rapid spread of the fungus disease that aphids disappeared as by a miracle and the infestation was reduced to a point where it was of no consequence. This same condition of heavy rains followed by fungus was felt a few days later along the Lake Michigan shore until by the 15th it appeared that the threatened damage had been greatly alleviated, if not entirely prevented.

During the last half of the month no reports of severe aphid injury have come to the laboratory, and in view of the abundant moisture and generally good yields, it has been felt that the aphid has not caused much damage. Just recently, however, (August 6) reports of injury have come from northern Wisconsin and from Door County where there is a considerable dried-pea business.

Nebraska

M. H. Swenk (September 3): Sweet peas were more or less injured in eastern Nebraska by the pea aphid.

GREEN CLOVER WORM (Plathypena scabra Fab.)

Virginia

Herbert Spencer (September 25): There have been several reports of green clover worm on fall English peas in Accomac and Northampton Counties (Eastern Shore). In the Norfolk section a few larvae of this insect are present, but no appreciable damage is being done.

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CUCUMBERS

STRIPED CUCUMBER-BEETLE (Diabrotica vittata Fab.)

CORRECTION:
Michigan

R. H. Pettit (September 3): Report of July 22, page 186, of the Insect Pest Survey Bulletin Vol. 4, No. 5, August 1, 1924, should read "arsenate of calcium" and not "arsenate of soda."

PICKLEWORM (Diaphania nitidalis Cramer)

Illinois

S. C. Chandler (September): Twenty-five per cent infestation of cucumbers was noted in the south end of the State.

COTTON APHID (Aphis gossypii Glov.)

New York

P. J. Chapman (September 20): Specimens received from Binghamton. Large quantities of cucumbers have been ruined for the last three years.

MELONS

COTTON APHID (Aphis gossypii Glov.)

Indiana

J. J. Davis (September 22): Many reports of injury the past month have been received from central and southern Indiana.

Mississippi

M. L. High (August 25): The melon aphid has done severe injury to some late plantings of melons about Gulfport.

Nebraska

M. H. Swenk (September 3): Aside from the aster aphid and pea aphid the only aphid seriously complained of during the month of August was the melon aphid, and even of these the complaints were much fewer than usual. No doubt the dry summer was largely responsible for this small amount of aphid trouble.

BEETS

SUGAR-BEET WEBWORM (Loxostege sticticalis L.)

Utah

Geo. F. Knowlton (September 5): Beet webworms are less numerous in northern Utah this year and doing less damage than two years ago.

BEET LEAFHOPPER (Eutettix tenella Baker)

Utah

Geo. F. Knowlton (September 5): Leafhoppers on beets are less numerous now than earlier in the season. Often it is hard to find a single specimen in fields badly damaged with curly-leaf. Many fields are being plowed up, and others are neglected because of the damage from this disease. The Cornish sugar factory will not run this year, and probably others will not. Around Garland the crop of beets probably will be less than 7 tons per acre where there is a crop worth harvesting.

CELERY

BLACK SWALLOW-TAIL BUTTERFLY (Papilio polyxenes Fab.)

Connecticut

A. E. Wilkinson (September 22): This insect is reported attacking celery. There has been an increase in abundance as compared with last month.

COTTONBOLL WEEVIL (Anthonomus grandis Boh.)

- North Carolina F. Parker (September 16): Many bolls that were considered safe are either found to be punctured by the weevil or shedding on account of excessive drought or rains. Weevils are said to be doing severe damage to grown bolls.
- Georgia O. I. Snapp (September 15): Infestation is lighter than usual in the locality of Fort Valley. Hot, dry weather is perhaps responsible.
- V. C. Childs (September 16): Weevils are now damaging bolls that are fully half-grown and in some instances were noticed where grown bolls contained one or more grubs. Damage is nothing like what might be expected from experience during the past few years.
- Mississippi Geo. A. Maloney (August 30): Immigration of weevils during the week of August 30 into fields in the vicinity of Greenville threatened considerable damage to a large acreage of cotton, which had been retarded by dry weather until rains in early August promoted active growth and fruiting.
- R. W. Harned (September 18): The boll weevil is not even yet abundant enough to be serious in most of the cotton fields in this State that have come under our observation. There have been fewer boll weevils throughout the entire season than on similar dates during previous years. At present here and there fields can be found where the infestation is quite general but, as a whole, the boll weevil has not been an important factor in Mississippi this year.
- Louisiana W. E. Hinds (August 28): Small survival of hibernation, together with the steady continuance of exceptionally hot dry weather from June 1 to the present time, has not only controlled weevil multiplication but has also seriously cut the yield of cotton in most of the State. Little poisoning has been required. The crop of 1924 will, undoubtedly, be under 400,000 bales.
- Oklahoma A. N. Caudell (September 10): In Payne County I found the boll weevil to be a very scarce insect, some of the natives claiming there were none, but there were a few present in a field I saw. In the same region they were very numerous during the last few years.

COTTON LEAFWORM (Alatama argillacea Huebn.)

- North Carolina F. Sherman (September 18): To date I have not received a single complaint or report of damage by it. they
Two of our workers found two specimens in Moore County which

judged to be larvae of this species, but as they were not reared or preserved even that record is subject to "reservation".

Last year (1923) under the conditions then prevailing I did venture to predict an outbreak and am glad I did for it did occur. With the information from the "Survey", and my own accumulation of complaint records which now cover nearly 24 years, I am beginning to feel as if I can sometimes, and in some cases, draw inferences as to insect probabilities which are better than mere blind guesswork.

- Georgia B. M. Gaddis (September 1): Said to be prevalent in the locality around Hahira, but too late to cause much damage.
- J. D. More (September 5): The cotton leafworm was abundant at Hahira on September 1.
- Illinois S. C. Chandler (September): There is some infestation, but generally not bad, in the southern end of the State.
- Tennessee R. B. Coad (September 3): Western Tennessee counties are reported as generally infested.
- Mississippi R. W. Harned (August 27): We received our first specimens of this pest from the State for 1924 yesterday. We received two larvae from Michigan City. This is next to the Tennessee line. Today we have received a telegram from Prof. J. W. Fox of Scott, which is as follows: "Cotton leafworm showed up here twenty-fifth." Throughout most of the State the cotton is so nearly mature that it will not pay to poison for this insect. There may be a few fields where the cotton is still fruiting where it will pay to poison.
- B. R. Coad (September 3): From Mississippi reports show all stages present in the following Counties: Benton, Washington, Bolivar. Dusting with calcium arsenate for control has been under way in the State for about a week. Considerable damage is probable from this insect in many localities.
- R. W. Harned (September 18): The cottonworm has now made its appearance here and there throughout the State. In most fields it has appeared in very small numbers but probably some fields are badly infested. In the northern part of the State where cotton is still fruiting some poisoning has been done to control this insect.
- Arkansas Geo. A. Maloney (September 5): The county agent in Mississippi County reports leafworm damaging to cotton crop. The prospects for a good crop are promising if leafworm infestation is controlled.
- Louisiana W. D. Hunter (August 26): During the last few days the cottonworm has been reported in this State from Shreveport and Tallulah.

W. D. Hinds (August 28): I have just received reports of the occurrence of the genuine Alabama argillacea at Arcadia, Bienville Parish, northern Louisiana, and Bunkie Alexandria, Rapides Parish, central Louisiana. These worms are now somewhat more than one-half grown and dust for their control is being applied. This is an addition to Mr. Hunter's Madison Parish report on August 25. (August 28): First of worms reported as seen about August 15 in Madison, Bienville, and Rapides Parishes by a county agent. Some poisoning is under way in northern Louisiana. Worms are up to full grown in the central part of the State. (September 5): Worms are scattering at Baton Rouge. No ragging yet seen or reported here. Worms are from one-half to fully grown. No poisoning is likely as picking is well advanced.

B. R. Coad (September 3): Dr. Hinds reports worms active in Bienville and Rapides Parishes. Madison Parish infestation is scattered but general. There is little doubt but that the infestation is general and spreading throughout this State, though generally scattered.

Geo. A. Maloney: Under date of September 15 Dr. W. E. Hinds writes: "Cottonworm moths from the second generation are just now emerging at Baton Rouge. Cotton is putting on considerable top growth and in some cases there is a small possibility of some top crop, because of boll weevil control through extreme heat and drought. I doubt, though, whether planters will dust this year for the cottonworm even to save a small top crop.

Louisiana and Missouri Geo. A. Maloney (September 6): Leafworm reported as of September 1 in the following Parishes of Louisiana: Bossier, Caddo, Bienville, Claiborne, Jackson, Natchitoches, and Vernon. Reported in Mississippi, Scott, and Pemiscott Counties, Missouri.

Missouri Geo. A. Maloney (September 5): Specimens of full-grown larvae of this pest were received today from Marston, New Madrid County, with advices that they were numerous in cotton fields of that County.

Arkansas B. R. Coad (September 3): Reports from this State indicate that all stages are present in the following Counties; Miller, Jefferson, Faulkner, White, Independence, Jackson, and Lawrence. Dusting with calcium arsenate for control has been under way in this State for the last ten days. Considerable damage is probable from this insect in many localities.

Dwight Isely (August 26): To date we have collected or received specimens of the cottonworm from the following Counties: Miller, Scott, Conway, Faulkner, Pulaski, Lincoln, Randolph, Lonoke, and Washington, indicating that the insect is well distributed over the State. In a few instances injury may occur to very late cotton.

R. W. Harned (August 25): I have today received some specimens of full-grown larvae and pupae of this insect from Lepanto, Poinsett County. I have not yet this year seen a specimen of this insect that was collected in Mississippi.

W. D. Hunter (August 26): During the last few days the cottonworm has been reported in this State from Newport, Tuckerman, Batesville, Searcy, Conway, and Pinebluff, the infestation being apparently much heavier than in Texas.

Kansas

J. W. McColloch (September 2): Specimens of the larvae and pupae of the cottonworm were received from Chetopa with the information that they had caused considerable defoliation.

(September 20): The larvae have practically defoliated a small experimental field of cotton on the experiment station farm at Manhattan.

Texas

W. D. Hunter (August 26): During the last few days the cottonworm has been reported in this State at Simonton, Columbus, Bastrop, Dallas, and Celina.

B. R. Coad (September 3): A general spread of this insect is reported by Dr. Hunter throughout this State.

Haiti

Geo. N. Wolcott (September 3): There was an outbreak of Alabama caterpillars near Gonaives in July and they generally seem much more abundant than they were in Porto Rico.

COTTON APHID (Aphis gossypii Glov.)

Mississippi

R. W. Harned (September 13): Another interesting entomological feature of the summer of 1924 has been the unusual abundance of the cotton aphid throughout many counties in this State. Although we usually do not expect the plant-lice to be abundant during periods of hot, dry weather, these insects have been unusually abundant this year. Many farmers, with long years of experience, have informed me that they have never seen the plant-lice so numerous before, especially during the latter part of the summer after the cotton was mature, or nearly mature. Recently Mr. H. M. Harris, formerly of this State, but now of the Iowa State College, Ames, Iowa, spent about two weeks inspecting cotton fields in various parts of Mississippi. A part of his report was as follows: "In scouting a large part of the State for the cotton flea, Psyllis seriatus, the writer has had occasion to observe the presence of great numbers of lice on the foliage and in some cases even on the blossoms of the cotton. This would appear to be unusual, especially in view of the fact that the weather has been unfavorable for aphids, due to the extended drought and high temperatures. In all fields lady-beetles of several species have been found in numbers."

COTTON RED SPIDER (Tetranychus telarius L.)

Mississippi

R. W. Harned (September 13): More complaints have been received during the last two months in regard to red spider injury than during any of the last 17 summers. Most of these complaints

have been in regard to the damage that the red spider is causing to cotton. A large proportion of these complaints have come from the northwestern part of the State. Some complaints in regard to red spider injury have, however, been received from almost all sections of Mississippi. Most of the plants that we have received that were infested with red spiders have been cotton plants, but this is due to the importance of cotton as a crop. Among the other plants that have been received are privet, begonia, violet, dahlia, grape, lilac, bean, kudzu, hydrangea, and angel trumpet. Many other plants were probably injured.

Arkansas

Dwight Isely (August 26): There is a rather serious outbreak of the red spider on cotton in northeastern Arkansas, including Mississippi, Craighead, Poinsett, Cross, Crittenden, St. Francis, Lee, and Phillips Counties.

COTTON FLEA (Psallus seriatus Reut.)

Mississippi

R. W. Harned (September 18): I am glad to report that, although we have done some careful scouting throughout many parts of the State, we have been unable to find the so-called cotton flea. If this pest occurs in the State it has certainly not been abundant during the last six weeks.

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Haiti

Geo. N. Wolcott (September 3): The pink bollworm of cotton is at Port-au-Prince and throughout the Cul de Sac Valley, extending to and including every locality where cotton is grown in Santo Domingo. I don't know how much more extensive its distribution is in Haiti.

A FLOWER-BEETLE (Euphoria sepulchralis Fab.)

Georgia

J. D. More (August 26): Some few complaints have been received concerning this insect damaging cotton.

COTTON CUTWORM (Prodenia ornithogalli Guen.)

Mississippi

R. W. Harned (September 18): The cotton-boll cutworm was received from about a dozen different counties, most of them in the northern half of the State. However, this insect has been reported from all parts of the State.

GARDEN WEBWORM (Loxostege similalis Guen.)

Mississippi

R. W. Harned (September 18): The garden webworm attracted a great deal of attention during July, especially in the northwestern part of the State. We received a number of reports where several acres of cotton had been completely defoliated by this insect. The only cultivated plants injured, according to reports received at this office, were cotton and alfalfa.

A CRICKET (Anurogryllus muticus DeG.)

Mississippi

R. W. Harned (July 25): A report of June 24 from Kokomo states: "They are very bad on cotton in some places. They resemble the common black cricket but they are light brown in color. They cut down the stalk, cut it up into pieces and carry them into their holes. These holes go 2 or 3 inches into the subsoil and are dug out 1 or 2 inches in diameter at the bottom. One man caught (by digging out) about 3300 in his cotton on second year's land." A further report on July 19 states: "There are sometimes as high as 30 or 40 of these young in one hole. As I stated before, they are a serious pest to cotton, eating whole stalks, cutting off bolls that are practically grown. Since the cotton has become so tough they are not so bad, confining their work to the tender parts of the leaves."

BEAN THRIPS (Heliothrips fasciatus Perg.)

California

T. D. Urbahns (September 8): While visiting the office of the county horticultural commissioner at Visalia a cotton grower brought in plants badly damaged and infested by these thrips. About 10 acres were reported as destroyed. The attack is apparently limited to individual fields.

SUGAR CANE

SUGAR-CANE BORER (Diatraea saccharalis crambidoides Grt.)

Louisiana

W. E. Hinds (August 27): The attack on corn was more common than on cane early in the season but rare even on corn. The attack on cane in the southern half of the State has not developed as usual to date. Borers were very bad in 1923.

SANTO DOMINGO CANE CATERPILLAR (Caliothe pulchella Lathy)

Haiti

Geo. N. Wolcott (September 3): The Santo Domingo cane caterpillar seems quite rare in Haiti.

F O R E S T A N D S H A D E - T R E E I N S E C T S

GENERAL FEEDERS

PERIODICAL CICADA (Tibicina septendecim L.)

Louisiana

W. E. Hinds (August 28): Periodical cicadas appeared in the northern part of the State, probably covering East Carroll, West Carroll, Morehouse, Madison, Tensas, Franklin, and Richland Parishes (although reports are not complete or positive) in May and continued until into June. In many localities they were extremely abundant, the ground under some trees being marked with a dozen or more burrows per square foot. Have not received any complaint of their damage to trees, but this must have occurred in due process.

A CICADA (Tibicen resonans Walk.)

Florida

B. L. Boyden (September 6): On August 31 I was passing Plant Park, Tampa, near the Lafayette Street bridge. I heard a noise above the traffic which sounded, as nearly as I can describe it, like a great number of sleigh bells ringing, the same tone and rhythm. It seemed to come from the oaks in the Park. On investigation I found pupal cases of cicadas attached to every tree and telephone post in and adjoining the park. In the ground I found numerous emergence holes. I saw none of the insects themselves as they all seemed to be in the upper branches of the trees. I have passed this park every day during the summer and the 31st was the first day on which I noticed the cicadas. Several days since I have passed and have not heard them. About 11 a. m. on a sunny day finds them most active, or noisy perhaps. (September 20): Under separate cover I am sending an unmounted cicada taken at Alafia, a small town about 7 miles south of Tampa. There was an outbreak in that vicinity similar to the one already reported in Tampa.

WHITE MARKED TUSSOCK-MOTH (Hemerocampa leucostigma S. & A.)

New Jersey

R. B. Lott (September 26): In some sections in the City of Trenton, trees, especially silver maple, are entirely defoliated and at this late date trees are making new growth. Trunks of trees are covered with egg masses.

Ohio

E. W. Mendenhall (September 6): The maples, sycamores, and many other shade trees in Columbus are badly infested by this insect. Many people are alarmed.

Indiana

J. J. Davis (September 22): Many inquiries have been received from cities in central and northern Indiana.

Utah

Geo. F. Knowlton (September 5): White marked tussock-moths are injuring some horse chestnut trees in Logan and Farmington. The trees are nearly stripped of foliage.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio

E. W. Mendenhall (August 29): Street and park trees in Columbus are very badly infested with the bagworm, especially maples, boxelders, etc. (September 6): Maple, boxelder, and many other trees are badly infested with the bagworm which is causing much concern in Columbus.

T. H. Parks (September 5): The bagworm has been much more abundant than usual this summer and has damaged evergreen plantings, soft maple, and shrubs. The insect is being received only from the southern half of the State. Cedar, arborvitae, and soft maple are reported most commonly attacked.

H. A. Gossard (September 20): The basketworm is very prevalent over southern Ohio and is now found northward to the Lake, though in former years we did not expect to find it much north of Columbus.

Indiana J. J. Davis (September 22): The bagworm is again quite abundant and destructive in southern Indiana.

Kentucky H. Garman (September): The sackworm is exceptionally destructive just now to cedar and other evergreens in parks and on lawns. It is causing many trees to look as if they were killed.

Mississippi R. W. Harned (September 18): The bagworm was especially serious during July and August on cedar and arborvitae. Practically all of the complaints have come from the northern half of the State.

Kansas J. W. McColloch (September 20): Numerous reports of bagworm injury continue to come in from eastern Kansas. The principal damage has been to evergreens although in a few cases hard maple and boxelder have been attacked.

Oklahoma A. N. Caudell (September 10): In Payne County I found bagworms almost completely defoliating evergreen trees and some dead ones were said to be have been killed by such defoliation.

AN OWL MOTH

Germany Douglas Miller (U. S. Trade Commissioner) (August 4): The month of July has been a gradual checking of the devastation in German forests by the small night-flying moth described in Trade Note No. 636 of July 24. It is now considered that the most of the damage has been done and that no further ravages of the pest will be felt this year. There is also hope of saving some of the trees that have not been severely affected.

A careful survey of the districts where the pest has been most active shows three main areas. The first one is in East Prussia in the country around Allenstein; the second stretched south and east from Frankfurt on Oder; the third is in Pomerania from Stettin to Stargard. There are no later estimates of the amount of timber that will have to be cut and placed on the market this year. It is agreed that it will be a very large quantity and will severely depress the already weak lumber market.

Prussian State authorities are making arrangements to give credit to buyers of state-owned timber so that they will be able to pay for their purchases over a whole season. In some quarters a report has been spread that the lumber cut on this account will be affected by the pest and will not be up to standard. This is vigorously denied by the State foresters who claim that the pest merely sucks the sap from the needles of the fir trees but that this can not have any effect on the wood itself.

BIRCH

BIRCH LEAF SKELETONIZER (Bucculatrix canadensisella Chamb.)

Massachusetts A. I. Bourne (September 26): Still on the increase in Massachusetts. A thorough survey of the entire State by Dr. Fernald and myself indicates that practically all birches in the State are stripped.

A SAWFLY (Fenusa pumila Klug)

Connecticut W. E. Britton (September 15): Adults reared from gray birch and sent to Mr. S. A. Rohwer who identified it as the European Fenusa pumila Klug, not known to occur in this country. Dr. Felt has observed it in New York State and has collected material. Reported from Hartford, Windsor, and, New Haven.

CATALPA

CATALPA SPHINX (Ceratonia catalpae Boisd.)

Ohio H. A. Gossard (September 20): The catalpa sphinx has been quite numerous over southern Ohio, doing rather severe damage to catalpa plantings where the acreages are of any size.

Indiana J. J. Davis (September 22): The second brood of catalpa sphinx caterpillars is very abundant and causing considerable defoliation of catalpa trees.

ELM

ELM LEAF-BEETLE (Galerucella luteola Mull.)

New York C. R. Crosby (August 23): A report from Irving-on-Hudson states: "There are as many as 100 on one curtain." where the beetles are in a house.

California California Weekly News Letter, Vol. 6, No. 18 (September 6): Some weeks ago a severe infestation of a destructive pest to elm trees in some sections of the city of Fresno was reported. Specimens were secured and sent to T. D. Urbahns, who reported this pest to be the imported elm leaf-beetle.

At the present time the infestation has spread over about 80 blocks in the City of Fresno and has also been reported from some of the surrounding towns.

The Fresno City Council has purchased two high-powered spray rigs which have been in operation for several days, and the County of Fresno will operate similar high-pressure spray outfits on the trees in the court house park and other country property.

EUROPEAN ELM SCALE (Gossypia spuria Modeer)

Utah Geo. F. Knowlton (September 5): Still receiving reports of damage from the European elm scale. It is present on elms wherever they are not carefully treated.

ELM APHID (Myzocallis ulmifolii Monell)

Oregon Sadie E. Keen (September 5): Honeydew in great quantities on sidewalk and paved street at Forest Grove; also hordes of "yellow jackets" attracted by these aphids.

HACKBERRY

HACKBERRY-BUD-GALL (Pachypsylla celtidis-gemma Riley)

Nebraska M. H. Swenk (September 3): The unusual number of complaints from counties in western Nebraska of heavy infestations of hackberry leaves with the hackberry nipple gall, produced by Pachypsylla celtidis-gemma Riley, mentioned in my last report, continued to come in during the early part of August.

LOCUST

LOCUST LEAF-MINER (Chalepus dorsalis Thunb.)

Ohio H. A. Gossard (September 20): Among the more striking occurrences may be mentioned the prevalence of the locust hispa in southern Ohio. Nearly all the locust trees have been so injured that they display a brown foliage distinguishable for a half-mile distant. This damage is so general that practically all locust trees are involved.

MAPLE

WOOLLY MAPLE-LEAF SCALE (Phenacoccus acericola King)

Ohio Herbert Osborn (September 19): Specimens of the maple Phenacoccus have been received from Ironton with a report of damage to maple trees in that vicinity.

A LEPIDOPTERON (Paraclemensia acerifoliella Fitch)

New York C. R. Crosby (September 15): Specimens were received from Copenhagen. (September 18): A large sugar maple bush badly infested at Fernwood.

OAK

OAK WEBWORM (Cacoecia fervidana Clem.)

Michigan R. H. Pettit (September 9): The oak ugly nest tortricid is present in lesser numbers in the region about West Branch, in the Ogemaw forest. The insect to which I refer is Archips fervidana.

WALKINGSTICK (Diaperomera femorata Say)

Massachusetts

A. I. Bourne (September 26): We have had complaints of common walking sticks from several points in the State. They have been reported as attacking oak and have also been collected from raspberry. Reports extend from the Connecticut River Valley as far East as Worcester.

Michigan

R. H. Pettit (September 9): I wish to state an unusual attack on scarlet oak at West Branch, in the Ogemaw forest, reported by the State forester, who brought in a large number of common walkingsticks. He reported that the attack was in spots, certain areas of as much as 30 acres being entirely defoliated.

OAK SPANGLES (Cecidomyia poculum O. S.)

Virginia

N. Rex Hunt (August 25): The galls on Quercus sp., collected near Clarendon, have been determined by D. B. Young (in the absence of Dr. Felt) as Cecidomyia poculum O.S.

PINE

WHITE-PINE WEEVIL (Pissodes strobi Peck)

Michigan

Eugenia McDaniel (August 25): The white-pine weevil is working in great numbers in the Jack pine forests in and about Alpena. Many of the leaders have been killed back and injury in general is reported by our field men in that region.

PINE BARK LOUSE (Chermes pinicorticis Fitch)

Ohio

Herbert Osborn (September 19): Specimens of the pine bark louse were received from Portsmouth, indicating a rather severe infestation of this insect in that locality.

PINE-LEAF SCALE (Chionaspis pinifoliae Fitch)

Ohio

Herbert Osborn (September 19): Specimens of the pine-leaf scale were received from Portsmouth, indicating a rather severe infestation of this insect in that locality.

LODGEPOLE PINE SAWFLY AND LEAF TYER (Species undetermined)

GENERAL

F. C. Craighead (September 30): Two unknown insects have suddenly become epidemic in the Madison National Forest and Yellowstone National Park in the vicinity of West Yellowstone. These insects were first noted in 1920 on an area of about 1 square mile. Since then they have spread over 100 square miles and nearly every tree is dead on about 30 miles. A similar outbreak of the sawfly not accompanied by the leaf-tyer occurs in the Payette National Forest.

LODGEPOLE PINE NEEDLE-MINER (Recurvaria milleri Busck)

GENERAL

F. C. Craighead (September 30): The lodgepole pine needle-miner which has been in great abundance for the past 10 years in the lodgepole stands in the surrounding Tuolumne Meadows of the Yosemite National Park shows considerable reduction this year. Already approximately 50 per cent of the lodgepole has been killed but there appears to be a chance for the recovery of the remainder with the decline in numbers of this defoliator.

JACK PINE SAWFLY (Species undetermined)

Minnesota

F. C. Craighead (September 30): Dr. S. A. Graham reports the jack pine sawfly outbreak which has been doing a great amount of injury over an enormous area of northern Minnesota has received a severe setback this past year. Extremely high mortality occurred in the larval stage during the past season.

SOUR GUM

SOUR GUM CASE-CUTTER (Antispila nyssaefoliella Clem.)

Massachusetts A. I. Bourne (September 26): This insect was collected from sour gum trees at Worcester September 20. Later it was also found at Amherst. In the latter case practically every leaf was infested.

SPRUCE

SPRUCE BUDWORM (Harmoloba fumiferana Clem.)

GENERAL

F. C. Craighead (September 30): The infestation of the spruce budworm in the Yellowstone National Park which has been progressing for the past 10 years still shows no signs of abatement. It is gradually enlarging the area originally infested and now has covered an area of about 15 square miles on parts of which at least 90 per cent of the timber is dead. On the Payette National Forest, Idaho, an extensive outbreak of the spruce budworm has developed within the past two years. Many square miles are now infested but just how extensive the outbreak is has not been determined at present. It is very probable that large portions of the great mountain mass of central Idaho are at present attacked. In New Mexico, on the Carson and Santa Fe National Forests, the spruce budworm has also been reported and specimens have been received corroborating these reports. How extensive the damage is has not yet been determined.

SPRUCE GALL APHID (Chermes abietis L.)

New York

Geo. M. Coddington (August 20): The spruce bud louse is common and is found in general throughout the county to be doing considerable damage. The aphids that are commonly found in Westchester County are Chermes abietis, attacking Norway spruce.

C. R. Crosby (August 30): Infested twigs received from Utica.

(CHERMES) GILLETTEA COOLEYI GILLETTE

New York Geo. M. Coddington (September 11): The spruce bud louse is common and is found in general throughout the county to be doing considerable damage. The aphids that are commonly found in Westchester County are (Chermes) gillettea cooleyi Gill., attacking blue spruce.

C. R. Crosby (September 4): Practically every blue spruce in a park at Middletown infested.

FIR

(CHERMES) GILLETTEA COOLEYI GILLETTE

Oregon L. P. Rockwood (September 3): Have been very numerous for the past three or four weeks on Pseudotsuga douglassii at Forest Grove. The leaves are coated with honeydew and the sidewalks under the trees are discolored. Not noted as numerous in the last few years.

SYCAMORE

A LACE-BUG (Corythucha ciliata Say)

Louisiana H. K. Plank and assistants (September 23): Generally distributed over New Orleans and very abundant on Platanus occidentalis, determination made by W. L. McAtee.

WILLOW

WILLOW LEAF-BEETLE (Lina lapponica L.)

Nebraska M. H. Swenk (September 3): The willow trees in Dakota County were considerably defoliated during the second week in August by this pest.

I N S E C T S A T T A C K I N G R E E N H O U S E

A N D O R N A M E N T A L P L A N T S

ASTER

ASTER APHID (Amuraphis middletonii Thomas)

Nebraska M. H. Swenk (September 3): A case of serious injury to aster plants by the aster aphid was reported from Custer County.

BOXWOOD

BOXWOOD LEAF-MINER (Monarthropalpus buxi Labou.)

Nebraska C. R. Crosby (September 4): Infested leaves of boxwood were received from Upper Montclair.

CREPE-MYRTLE

CREPE-MYRTLE APHID (Myzocallis sp.)

- Mississippi H. K. Plank (July 19): Could find none of these aphids on crepe-myrtle trees about Great Southern Hotel at Gulfport, which showed evidence of having been rather heavily infested.
- Louisiana H. K. Plank and assistants (July 23-September 18): The infestation on Lagerstroemia indica is decreasing considerably at New Orleans, due very likely to the activities of predators, chiefly the "twice-stabbed" lady-beetle. Was very abundant. On September 2 a few alate and apterous forms could still be seen on the underside of the newer leaves in scattered sections of the city. (September 18): Conditions about like those on September 2. (September 9): One tree only, out of a large number, was found to have been infested on the grounds of Glen Gordon Farm at Covington, and this one had only a few apterous and alate forms on the newer leaves on sprouts about the base.

CHRYSANTHEMUM

A LACE-BUG (Corythucha marmorata Uhler)

- Louisiana E. Foster (September 23): Severely distributed throughout New Orleans and especially bad on neglected chrysanthemum plants, Rudbeckia laciniata var.

DAHLIA

SUNFLOWER WEEVIL (Rhodoaenus 13-punctatus Ill.)

- Kansas J. W. McColloch (September 20): This species has caused considerable damage to dahlias in two nurseries at Leavenworth.

PEONY

WIREWORMS (Elaterridae)

- Indiana J. J. Davis (September 22): Reports of injury to peonies at Decatur on August 27. No specimens were received.

PITTOSPORUM

COTTONY CUSHION SCALE (Icerya purchasi Mask.)

- Louisiana W. D. Whitcomb (September 23): Generally abundant at New Orleans on Pittosporum tibiria in the gardens of this city. Has been successfully controlled by fumigation under tent with Hydrocyanic acid gas 1-1½-3 formula, for 1 hour at rate of 1 oz. av. to 1000 cubic feet, when two treatments are given about two weeks apart.

ROSE

ROSE LEAFHOPPER (Typhlocyba rosae L.)

Utah. Geo. F. Knowlton (September 5): Rose bushes in Logan damaged by the leafhoppers, which are numerous.

VERBENA

TRIALEURODES ABUTILONEA HALD.

Louisiana H. K. Plank (July 30): Very abundant about flowers and plants in gardens and dooryards at New Orleans. (September 18): Still present on verbena and wild morning-glory, but decreasing somewhat in abundance.

INSECTS AFFECTING MAN AND
DOMESTIC ANIMALS

MAN

DOG FLEA (Ctenocephalus canis Bouche)

Nebraska M. H. Swenk (September 3): Several cases of severe infestation of houses, barns, and stables with the dog flea were reported during August.

INSECTS INFESTING HOUSES
AND PREMISES

ARGENTINE ANT (Iridomyrmex humilis Mayr).

Mississippi M. R. Smith (August 25): Due to the drought the Argentine ants have given less trouble to date than in any of the last three summers.

CORRECTION M. R. Smith (August 25): In the Vol. 4, No. 4, July 1 number of the Insect Pest Survey Bulletin, on page 149, I notice Itta Bena, Miss., was given as Atta Bena, which is of course incorrect. The figures I gave refer to the percent of control obtained and not to the cost.

A TERMITE (Reticulitermes flavipes Kol.)

Kansas J. W. McCulloch (September 20): Termites have seriously damaged the woodwork in a house at Russell. The oak woodwork in a house at Manhattan was damaged to the extent that it had to be torn out. In reaching the woodwork the termites came up

through 2 feet of stone foundation. The cement between the stones was poor and the termites constructed their runways through this. It is interesting to note that the termites avoided the pine studding and sheeting.

A TERMITE (Reticulitermes tibialis Banks)

Nebraska

M. H. Swenk (September 3): In Grand Island, Hall County, the termite Reticulitermes tibialis was found to have so seriously injured a residence that many of the joists and most of the flooring and window casings had to be replaced during August. This infestation was of three years standing. Two or three other residences in the neighborhood were also more or less injured by this pest. The same pest was found destroying geraniums, coleus, begonia, and other plants in the greenhouse at the State Penitentiary at Lincoln.

A TERMITE (Kalotermes marginipennis Latr.)

Louisiana

H. K. Plank (September 20): Winged adults of this termite were collected in a residence at New Orleans by James Zetek and the writer on July 4, at which time considerable damage to the under timbers of a house was reported by the owner.

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Kansas

J. W. McCulloch (September 20): Beetles of this species were taken at Topeka in large numbers in flax straw used for stuffing upholstered furniture.

EUROPEAN EARWIG (Forficula auricularia L.)

Oregon

P. D. Sergeant (September 6): First noted at Ashland attacking rose. Damage is very light.

CONFUSED FLOUR BEETLE (Tribolium confusum Duv.)

Kansas

J. W. McCulloch (September 20): Adults of this species were received from Norton with the information that they were abundant in a bin of sweet-clover seed.

NOTES FROM THE FEDERAL HORTICULTURAL BOARD, SEPTEMBER 20, 1924.

A CORRECTION

The last line on page 257, Vol. 4, No. 6, September 1 number of the Insect Pest Survey Bulletin, is incorrect, as this species is known from Pennsylvania, District of Columbia, North Carolina, Georgia, Florida, Mississippi, Iowa, Texas, New Mexico, Arizona, and California.

INTERCEPTIONS

Mexican oranges were found in ship's stores on board a tank steamer from Tampico, Mexico, at Tampa, Fla., by a collaborator of the Board. Examination showed that one of these oranges

was infested by larvae which were identified as Mexican orange maggots (Anastrepha ludens Loew.) A box of Mexican oranges was also found in the stores of an oil tanker which arrived at New Orleans from Tampico, Mexico, August 25. They were destroyed.

Larva of the Mediterranean fruit fly (Ceratitis capitata Wied.) was taken from an orange in ship's stores of a Spanish steamer arriving at Tampa, Fla., from Spain via Havana, Cuba. The origin of the infested material, so far as could be ascertained, was Malaga, Spain. Inspectors at San Pedro, Calif., found specimens of this pest in coffee berries from Hawaii.

The importance and necessity for careful inspection of passengers' baggage on vessels from Hawaii is thoroughly demonstrated by the following report received from California: The SS. Enterprise, from Honolulu, arrived in quarantine at San Francisco on the morning of August 24th. In the baggage of a Portuguese passenger, there was found a tobacco can containing avocado, mango, and papaya seeds in which a species of weevil was present. The most important feature of this interception, however, was the finding of several live larvae of the Mediterranean fruit fly in the small amount of stringy pulp adhering to the mango seeds. Upon arrival of the vessel at the dock, the trunk and contents were retained on board and subjected to fumigation for a period of 24 hours.

A dangerous weevil, Heilipus perseae Barber, has been collected frequently of late in avocados from Mexico at El Paso, Tex., It has also been reported in the same host from Mexico at Brownsville, Tex., and Nogales, Ariz.

Since the last letter of information was issued, reports have been received of the following interceptions of larvae of the West Indian fruit fly (Anastrepha fraterculus Wied.) at New York: Found once in mangoes from Cuba; seven interceptions in mangoes from Jamaica, and twice in mangoes from Porto Rico. The same insect is reported from Philadelphia as follows: Taken three times from mangoes from Jamaica, and three times from sapodillas from Jamaica.

Mangoes from Mexico were found as infested with larvae of Anastrepha ludens Wied., at El Paso, Tex., July 12, 1924, and at Laredo, Tex., June 14, 1924. This insect was also taken from peaches from Mexico, at Brownsville, Tex., July 23, 1924, and from sweet limes from Mexico at Laredo, Tex., August 28, 1924.

A thrips (Physothrips atratus Hal.) was collected on castor bean from England at Boston, July 14, 1924. This is a very common European thrips and is not yet recorded from North America. No foreign thrips are desirable as they are very destructive insects.

An elaterid (Agriotes lineatus L.) was intercepted at Philadelphia in potatoes from Sweden. This beetle is a well known pest in Europe on corn and other grains and it is well to keep a check on its possible introduction.